Eruptive collagenoma

Sir,

Collagenoma is a connective tissue nevus, a hamartoma, the pathogenesis of which is elusive. The major element of the extracellular connective tissue within a connective tissue nevus may be collagen, elastic fibers or glycosaminoglycans.[1] Eruptive collagenoma is a rare type of collagenoma that was first reported and named by Colomb in 1955.[2] Herein, a case of eruptive collagenoma along with review of the literature has been presented.

A 14-year-old girl presented to us with sudden-onset eruption of asymptomatic skin-colored papules over the back and neck within a period of 3–4 days, 4 months back. There was no history of previous skin eruptions/chicken pox or trauma at the site of the lesions. Her family history was unremarkable. A review of the various organ systems (cardiovascular, respiratory, gastrointestinal tract, central nervous system) was within normal limits. Examination revealed multiple discrete, firm, non-tender skin-colored to slightly hypopigmented papules, 2–5 mm in diameter, which had no scale or exudation on the surface [Figure 1]. The lesions were present predominantly over the lower back, with a few scattered lesions over the chest and upper thighs. Clinical differential diagnosis of steatocystoma multiplex, eruptive xanthoma, anetoderma, papular elastorrhexis and eruptive collagenoma were kept.

There was no evidence of osteopoikilosis or any other bony abnormality on radiographic examination of the hands and pelvic bones. The hematological and biochemical investigations including complete blood counts (CBC), liver and kidney function tests and electrocardiogram (ECG) were normal. Histopathological examination of the section from a representative lesion revealed an unremarkable epidermis. The reticular dermis was expanded by randomly arranged coarse collagen bundles of various sizes [Figure 2]. Verhoff Van Gieson stain revealed markedly decreased elastic fibers in the dermis [Figure 3]. Based on these findings, the patient was diagnosed as having eruptive collagenoma.

Collagenomas are divided into inherited and acquired. The former, which are autosomal dominantly inherited, include familial cutaneous collagenoma and Shagreen patch of tuberous sclerosis; the latter include eruptive collagenoma and isolated collagenoma.[3] Acquired collagenomas may be multiple when they are termed eruptive collagenoma, or they may be isolated and localized to one body region only.[3] Familial cutaneous collagenomas usually appear in the second and third

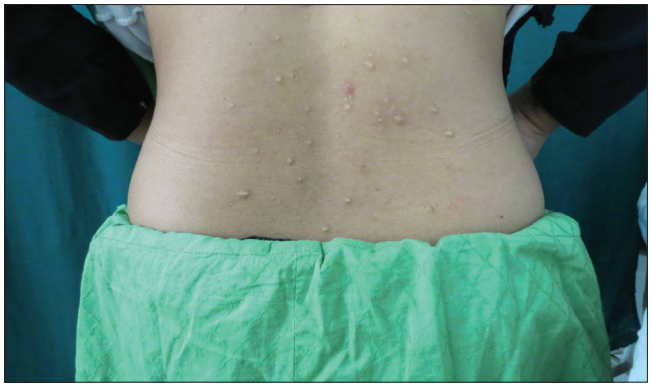

Figure 1: Multiple discrete, 2–5 mm in diameter, firm, non-tender skin-colored to slightly hypopigmented papules over the lower back

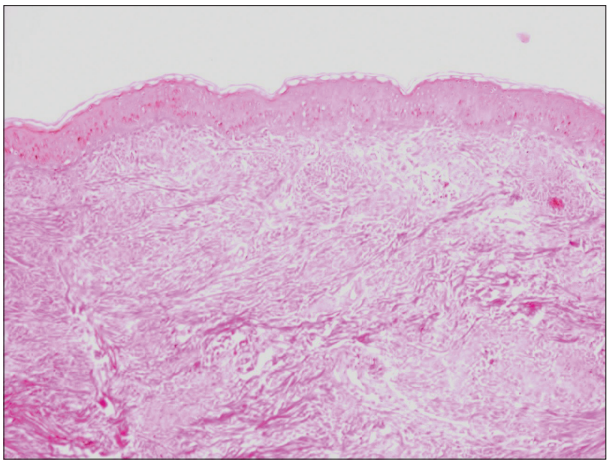

Figure 2: Randomly arranged bundles of collagen fibers present throughout the dermis (H and E, × 400)

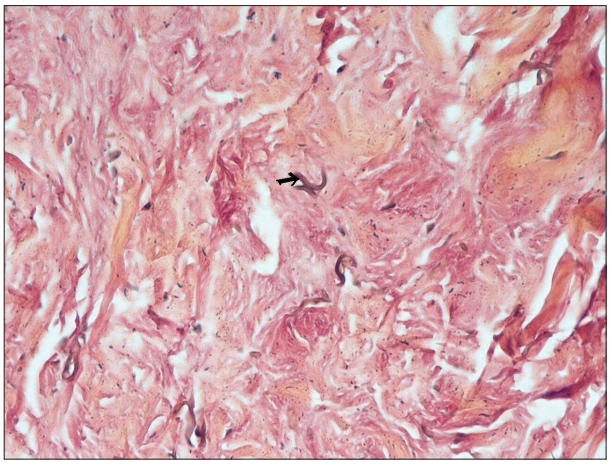

Figure 3: Markedly decreased elastic fibers in the dermis as depicted by an arrow (Verhoff–Van Geison stain, × 400)

Table 1: Characteristic features of reported cases of eruptive collagenoma

Reference	Year	Age (years)/ sex	Age at presentation (years)	Site	Appearance	Collagen bundles	Elastic fibers
Betti *et al.*[6]	1988	42/male	40	Both ears	Firm, elastic, flesh-colored papules to plaques	Dense, coarse, thick collagen fibers. Variably oriented, with many of them running perpendicular to the skin surface	Sparse fragmented elastic fibers
Ryder Down *et al.*[7]	1998	7/female	5	Abdomen, back, thighs	Multiple, 3–8 mm, oval, white to flesh-colored nodules	Tightly packed bundles of collagen, some running parallel to the dermis. Collagen fibers within the bundle appeared thinner	Absent within the area of abnormal collagen
Lee *et al.*[1]	2002	7/male	5	Trunk and extremities	Multiple, 2–5 mm, firm, white to flesh-colored papules	Slightly homogenized condensed collagen in the upper dermis	Decreased and partially fragmented elastic fibers
Amaya *et al.*[9]	2002	78/female	70	Neck, shoulders	White papules and nodules 2–20 mm	Coarse and proliferated collagen fibers	Decreased elastic fibers
Mukhi *et al.*[10]	2002	42/male	15	Back, abdomen, upper limb, face	Skin-coloured, firm non-tender nodules and plaques	Lobules of densely collagenized acellular connective tissue in the dermis	Marked decrease in elastic fibers
Yahya *et al.*[3]	2006	16/female	2	Face, arms, legs	Skin-colored plaques ranging in size from 1 cm X 1 cm to 7 cm X 3 cm	Randomly arranged coarse collagen bundles of varying size	Scanty and fragmented
Zaho *et al.*[2]	2010	15/female	14.5	Left side of abdomen	2–8 mm, firm, non-tender, skin-colored, circular or irregular, well-demarcated, nodules and papules	Predominant increase of condensed collagen	Lack of elastic fibers in some parts and fragmented in other parts
Ju *et al.*[5]	2010	38/male	30	Back and shoulders	Few millimeters to centimeters, skin-colored, firm, non-tender nodules and plaques	Dense, coarse collagen fibers	Slightly decreased elastic fibers
Sharma *et al.*	2012	14/female	13	Lower back, chest, thighs	2–8 mm discrete, firm, non-tender skin-colored circular or irregular, well-demarcated, elevated nodules and papules	Randomly arranged coarse collagen bundles	Markedly decreased elastic fibers

decades of life, while eruptive collagenomas, like isolated collagenomas, may appear within a few years after birth.[4] However, eruptive collagenomas have also been reported in the later years of life.[5,6] Familial cutaneous collagenomas tend to affect the trunk (mostly the upper back) and proximal arms, whereas eruptive collagenomas usually affect the periphery, including the head, neck and upper and lower limbs, although cases affecting the trunk as in the present case have been reported.[4] Lesions are usually symmetrical in both familial and eruptive variety, but are more numerous (even in hundreds) in familial cutaneous collagenomas as compared with the eruptive collagenomas. Isolated collagenomas present as few lesions localized to parts of the body such as palm, sole and labium majus.[3] Our case fits into eruptive rather than the familial variety because of the negative family history. Eruptive cutaneous collagenoma is clinically characterized by discrete, firm, skin-colored and slightly elevated cutaneous papules, nodules or plaques on the trunk and the extremities, or it may be generalized.[5] Histologically, the lesions are characterized by an excessive accumulation of dense, coarse collagen fibers in the dermis. Elastic fibers appear diminished in number, perhaps representing a dilution phenomenon due to excess collagen accumulation.[4]

Elastic nevus, nevus anelasticus and papular elastorrhexis, scars and anetoderma are the differential diagnosis of eruptive collagenoma. Elastic nevus can occur as solitary lesion or associated with osteopoikilosis of Buschke Ollendorf syndrome.[7] Biopsy is required to make the diagnosis. Nevus anelasticus has been defined as an acquired nevus characterized clinically by perifollicular lesions and histopathological evidence of paucity or lack of elastic tissue, while collagen is normal.[8] Besides, papular elastorrhexis is another condition characterized by asymptomatic, smaller 1–5 mm-sized, white papules on the trunk and extremities first appearing during childhood or adolescence.[8] Histopathologically, papular elastorrhexis displays fragmented elastic fibers unlike eruptive collagenoma, where elastic fibers appear diminished rather than fragmented.[8]

To the best of our knowledge, only eight reported cases of eruptive collagenoma could be retrieved in the English literature by searching on PUBMED/MEDLINE, the salient features of which have been outlined in Table 1.

Because the lesions are benign, no active intervention is required. It is imperative to take cognizance of eruptive collagenoma as it may masquerade as a number of dermatosis. A histopathological study comprising stains for connective tissue is essential in order to reach the precise diagnosis.

Reena Sharma, Prashant Verma, Archana Singal, Sonal Sharma[1]

Departments of Dermatology and STD and [1]Pathology, University College of Medical Sciences (University of Delhi) and Guru Teg Bahadur Hospital, Delhi, India

Address for correspondence: Dr. Reena Sharma, C-304, Shri Sai Baba Apartment, Sector- 9, Rohini, Delhi - 110 085, India.
E-mail: reenalhmc@yahoo.co.in

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